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7590 03/23/2010 ARMSTRONG WORLD INDUSTRIES, INC. 2500 Columbia Avenue P.O. Box 3001 Lancaster, PA 17604-3001			EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD D. STACKENWALT, ERIC KRANTZ-LILIENTHAL
WESLEY T.K. BISCHEL, MARTIN L. GRAVER and
JAMES F. MATHIS

Appeal 2009-005898
Application 10/774,234
Technology Center 3600

Decided: March 23, 2010

Before JOHN C. KERINS, STEVEN D.A. McCARTHY
and KEN B. BARRETT, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

2 The Appellants appeal under 35 U.S.C. § 134 from the Examiner’s
3 decision finally rejecting claims 1, 2, 4-7 and 10 under 35 U.S.C. § 103(a) as
4 being unpatentable over Valaire (US 5,622,197, issued Apr. 22, 1997). We
5 have jurisdiction under 35 U.S.C. § 6(b).

6 We AFFIRM.

7 The Appellants argue the rejections of claims 1, 2, 4-7 and 10 as a
8 group. (Br. 9). Claim 1 is representative of the group. *See* 37 C.F.R.
9 § 41.37(c)(1)(vii). Claim 1 recites:

12 a panel having opposed edges;

13 first and second biasing members
14 cooperating with the opposed edges of the panel;

15 a first cable attached to the first biasing
16 member at a first end of the first cable and the
17 second biasing member at a second end of the first
18 cable, wherein the first cable cooperates with the
19 first and second biasing members to maintain the
20 panel in a flexed configuration;

21 a second cable attached to the first biasing
22 member at a first end of the second cable and to a
23 wall or an overhead ceiling at a second end of the
24 second cable; and

25 a third cable attached the second biasing
26 member at a first end of the third cable and to a
27 wall or an overhead ceiling at a second end of the
28 third cable.

ISSUES

2 The Examiner finds that Valaire discloses a suspended decorative
3 structure including a panel in the form of a canopy fabric or cloth 20. The
4 Examiner also finds that Valaire discloses first and second biasing members,
5 namely, a passive tensioner 45 at one corner of the canopy fabric or cloth 20
6 and a corresponding passive tensioner provided at the opposite corner. In
7 addition, the Examiner finds that a cable 42 attached at opposite ends to the
8 first and second biasing members cooperates with the biasing members to
9 maintain the panel in a flexed configuration. (Ans. 3-4).

10 The Appellants disagree with the Examiner’s finding that Valaire’s
11 canopy fabric or cloth is encompassed within the meaning of the term
12 “panel” (Br. 10-11) but do not appear to contest the Examiner’s finding that
13 the two passive tensioners are encompassed within the broadest reasonable
14 interpretation of the term “biasing members” (see Br. 10). The Appellants
15 do contest the Examiner’s finding that the two passive tensioners would
16 cooperate with the cable 42 to maintain the canopy fabric or cloth 20 in a
17 flexed configuration. (Br. 10).

18 Only issues and findings of fact contested by the Appellants have
19 been considered in this opinion. *See Ex Parte Frye*, Appeal No. 2009-
20 006013 slip op. at 10 (BPAI Feb. 26, 2010), reproduced at <http://www.uspto.gov/ip/boards/bpai/decisions/prec/fd09006013.pdf>. This appeal turns on
21 two issues:

22

23 Is the term “panel” as used in claim 1 sufficiently broad
24 to encompass Valaire’s canopy fabric or cloth 20?

1 Does Valaire disclose that the cable 42 cooperates with
2 the passive tensioners to maintain the canopy fabric or cloth 20
3 in a flexed configuration?

4

5 FINDINGS OF FACT

6 The record supports the following findings of fact (“FF”) by a
7 preponderance of the evidence.

8 1. Valaire discloses a canopy assembly 10. (Valaire, col. 3, ll. 1-
9 3).

10 2. Valaire’s canopy assembly 10 includes a canopy fabric or cloth
11 20. (*Id.*).

12 3. Valaire’s preferred canopy fabric or cloth 20 is square or
13 rectangular in shape with corners 21, 22, 23 and 24. Corners 21, 23 are
14 diagonally opposite and corners 22, 24 are diagonally opposite. (Valaire,
15 col. 3, ll. 3-6 and 8-14).

16 4. Valaire states that the canopy assembly 10 has no rigid
17 structure within the canopy fabric or cloth 20. Valaire states that the canopy
18 assembly 10 is very light, allowing construction of a very large canopy
19 without the need for large support structure or scaffolding. Valaire contrasts
20 these properties favorably with the properties of conventional permanent or
21 collapsible structures comprising “flat panels” connected by an appropriate
22 framework. (Valaire, col. 7, ll. 5-24).

23 5. Valaire’s canopy assembly 10 also includes a furling means 40
24 for furling and unfurling the canopy fabric or cloth 20. (Valaire, col. 3, ll.
25 15-18 and 23-29).

1 6. Valaire's furling means *40* includes a cable *42* stretching across
2 the canopy fabric or cloth *20*. (Valaire, col. 3, ll. 16-18 and 23-24). Valaire
3 teaches attaching the cable *42* to the canopy fabric or cloth *20*, as by taping.
4 (Valaire, col. 5, ll. 31-32).

5 7. Valaire's canopy assembly *10* also includes peripheral cables
6 *61, 62, 63, 64* running between the corners *21, 22, 23, 24* of the canopy
7 fabric or cloth *20*. (Valaire, col. 3, ll. 36-38).

8 8. Valaire's canopy assembly *10* also includes a passive tensioner
9 *45* coupled to the corner *21* of the canopy fabric or cloth *20*. The passive
10 tensioner *45* includes sheaves *46* and cable grips *47* which hold ends of the
11 peripheral cables *61, 62*. (Valaire, col. 5, ll. 49-51 and 58-60).

12 9. Although Valaire's drawing figures do not show a passive
13 tensioner coupled to the diagonally opposite corner *23*, Valaire discloses
14 coupling a passive tensioner to that corner in the same manner that the
15 passive tensioner *45* is coupled to the corner *21*. (Valaire, col. 5, ll. 55-57).
16 Valaire suggests that the passive tensioner coupled to the corner *23* hold
17 ends of the peripheral cables *63, 64* in the same manner that the sheaves *46*
18 and cable grips *47* of the passive tensioner *45* hold ends of the peripheral
19 cables *61, 62*. (*See, e.g.*, Valaire, col. 5, ll. 40-46 and 58-60).

20 10. Valaire teaches that the square canopy fabric or cloth *20* forms
21 a hyperbolic paraboloid when tensioned. (Valaire, col. 4, ll. 62-64). The
22 ordinary usage of the term "flexed configuration" is sufficiently broad to
23 encompass a bent or curved configuration. (WEBSTER'S THIRD INT'L
24 DICTIONARY 869 (G&C Merriam Co. 1971) ("flex," entry 1, def. 1: "to
25 bend")). When Valaire's canopy fabric or cloth *20* forms a hyperbolic
26 paraboloid, it is in a flexed configuration.

1 11. Valaire teaches adjusting the tensioning of the canopy fabric or
2 cloth 20 in at least two directions by means of the peripheral cables 61, 62,
3 63, 64 in conjunction with the cable 42. (Valaire, col. 5, ll. 14-17). The
4 tensioning of the canopy fabric or cloth adjusts the overall shape, appearance
5 and structural rigidity of the canopy assembly 10. (Valaire, col. 6, ll. 60-63).
6 In other words, Valaire teaches the cable 42 cooperating with the passive
7 tensioners as well as with the peripheral cables 61, 62, 63, 64 to maintain the
8 canopy fabric or cloth 20 in a flexed configuration.

9 12. Valaire states that:

10 the tension in the furling cable may be adjusted. In
11 this way, the furling cable may be tensioned to
12 provide a relatively straight furling means, thereby
13 facilitating furling of the canopy fabric, yet when
14 required the furling cable may be relaxed to
15 conform to whatever curved shape is formed by
16 the canopy fabric. Further, having such a flexible
17 furling means allows the canopy to be any desired
18 shape, since it is not limited or defined by the
19 shape of the furling apparatus.

20 (Valaire, col. 2, ll. 25-33; *see also id.*, col. 7, ll. 25-28). Valaire's teaching
21 that the shape of the canopy is not limited or defined by the shape of the
22 furling apparatus is not inconsistent with, nor would it have discouraged one
23 of ordinary skill in the art from, following Valaire's teaching to adjust the
24 tension of both the peripheral cables 61, 62, 63, 64 and the cable 42 to
25 maintain the canopy fabric or cloth 20 in a desired shape or flexed
26 configuration. (*Compare* Valaire, col. 5, ll. 8-13 *with id.*, col. 5, ll. 14-17).

PRINCIPLES OF LAW

2 A claim under examination is given its broadest reasonable
3 interpretation consistent with the underlying specification. *In re Am. Acad.*
4 *of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). In the absence of
5 an express definition of a claim term in the specification or a clear
6 disclaimer of scope, the claim term is interpreted as broadly as the ordinary
7 usage of the term by one of ordinary skill in the art would permit. *In re*
8 *ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007); *In re*
9 *Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). Properties of preferred
10 embodiments described in the specification which are not recited in a claim
11 do not limit the reasonable scope of the claim. *E-Pass Techs., Inc. v. 3Com*
12 *Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

13 A reference teaches away from the subject matter of a claim only if “a
14 person of ordinary skill, upon reading the reference, would be discouraged
15 from following the path set out in the reference, or would be led in a
16 direction divergent from the path that was taken by the applicant.” *In re*
17 *Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Prior art does not teach away
18 from claimed subject matter merely by disclosing a different solution to a
19 similar problem unless the prior art also criticizes, discredits or otherwise
20 discourages the solution claimed. *See In re Fulton*, 391 F.3d 1195, 1201
21 (Fed. Cir. 2004).

ANALYSIS

24 The Appellants contend that Valaire's canopy fabric or cloth 20 is not
25 a "panel" within the scope and meaning of the term "panel" as used in claim
26 1. The Appellants argue that this is the case because a fabric or cloth has no

1 rigid structure. (Br. 11). The Examiner points out (*see* Ans. 7) that appealed
2 claim 7 depends from claim 1 and recites that the “panel” may be
3 constructed of fabric. This recitation implies that the term “panel” as used in
4 claim 1 must be sufficiently broad to encompass a cloth or fabric. The
5 Appellants point to nothing in the Specification inconsistent with this
6 interpretation. Although the Appellants point to language in Valaire which
7 suggests that the ordinary meaning of the term “panel” might not encompass
8 Valaire’s canopy fabric or cloth 20 (*see* Br. 10-11; *see also* FF 4), the
9 intrinsic evidence implies that the Appellants’ use of the term in claim 1
10 encompasses Valaire’s canopy fabric or cloth 20.

11 Valaire discloses that the cable 42 cooperates with the passive
12 tensioners to maintain the canopy fabric or cloth 20 in a flexed
13 configuration. (FF 11). Valaire’s statement that “having such a flexible
14 furling means allows the canopy to be any desired shape, since [the shape of
15 the canopy] is not limited or defined by the shape of the furling apparatus”
16 (Valaire, col. 2, ll. 31-33) is not inconsistent with this finding. (FF 12).
17 Valaire’s statement does not teach away from cooperation between the cable
18 42, the passive tensioners, and the peripheral cables 61, 62, 63, 64 to
19 maintain the canopy fabric or cloth 20 in a flexed configuration. This is
20 because the statement would not have discouraged one of ordinary skill in
21 the art from following Valaire’s teaching to adjust the tension of both the
22 peripheral cables 61, 62, 63, 64 *and* the cable 42 to maintain the canopy
23 fabric or cloth 20 in a desired shape or flexed configuration. (*Id.*)

CONCLUSIONS

2 The term "panel" as used in claim 1 is sufficiently broad to encompass
3 Valaire's canopy fabric or cloth 20.

4 Valaire discloses that the cable 42 cooperates with the passive
5 tensioners to maintain the canopy fabric or cloth 20 in a flexed
6 configuration.

7 We sustain the rejections of representative claim 1 and its grouped
8 dependent claims 2, 4-7 and 10 under § 103(a) as being unpatentable over
9 Valaire.

DECISION

12 We AFFIRM the Examiner's decision rejecting claims 1, 2, 4-7 and
13 10

14 No time period for taking any subsequent action in connection with
15 this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R.
16 § 1.136(a)(1)(iv) (2007).

AFFIRMED

20 mls

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